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Attorney Docket

UT-0003

Inventors:

Rao and Mujtaba

Serial No.:

09/073,881

Filing Date:

May 6, 1998

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D1
1. (amended) A method for generating mammalian neural crest stem cells comprising:

(a) obtaining mammalian neuroepithelial stem cells derived from the neural tube from a mammalian embryo at a stage of embryonic development after closure of the neural tube by:

(i) removing a sample of neural tube tissue from a mammal at a stage of embryonic development after closure of the neural tube;

(ii) dissociating cells comprising the sample of neural tube tissue removed from the mammal; and

(iii) plating the dissociated cells in feeder-cell-independent culture on a substratum and in a media comprising fibroblast growth factor and chick embryo extract so that mammalian neuroepithelial stem cells are obtained; and

(b) inducing the neuroepithelial stem cells to differentiate in vitro by replating the neuroepithelial stem cells onto a fibronectin substrate and in a media comprising chick embryo extract, NGF, FGF and EGF, thereby generating said neural crest stem cells.

D2
9. (amended) The method of claim 1 wherein said inducing in step (b) further comprises adding a dorsalizing agent to the cells to increase neural crest stem cell numbers.

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15. (amended) A method for generating rat neural crest stem cells comprising:

(a) obtaining rat neuroepithelial stem cells derived from the neural tube from a rat embryo at a stage of embryonic development after closure of the neural tube by:

(i) removing a sample of neural tube tissue from a rat at a stage of embryonic development after closure of the neural tube;

(ii) dissociating cells comprising the sample of neural tube tissue removed from the rat; and

(iii) plating the dissociated cells in feeder-cell-independent culture on a substratum and in a media comprising fibroblast growth factor and chick embryo extract so that rat neuroepithelial stem cells are obtained; and

(b) inducing the neuroepithelial stem cells to differentiate in vitro by replating the neuroepithelial stem cells onto a fibronectin substrate and in a media comprising chick embryo extract, NGF, FGF and EGF, thereby generating said neural crest stem cells.

Please add the following new claims.

16. The method of claim 15 wherein said inducing in step (b) further comprises adding a dorsalizing agent to the cells to